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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/709,991

06/11/2004

Hong-Da Liu

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NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION

P.O. BOX 506

MERRIFIELD, VA 22116

EXAMINER

HOLTON, STEVEN E

ART UNIT

PAPER NUMBER

2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/709,991		LIU, HONG-DA	
	Examiner		Art Unit	
	Steven E. Holton		2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

The Examiner objects to the specification regarding the presentation of the formula and mathematical symbols used within the specification.

Specifically, paragraph 6 (equation 1), the terms provided at the end of paragraph 29 (top of 8), paragraph 31 (equation 2), paragraph 33 (equation 3), and the symbols provided in paragraph 35 (pages 10 and 11) are all included using an extremely large font that causes some terms to become illegible. Further, the Examiner is unsure if the parallel line with dots symbol used in equations 2 and 3 is intended to be an equals sign (=) or a not equals sign (\neq).

Paragraph 9, uses the term 'gamma curve 42' with regards to figure 4. The Examiner notes that figure 4 does not possess an element 42, but does possess an element 30. The Examiner feels that either the figure or the specification should be amended to use the same element number in both.

Paragraph 28, certain points within Fig. 6 are incorrectly identified. Specifically, the points V_o and V_j are not named within the paragraph. The Examiner believes that the phrase reading "the gamma curve 52 is between V_o and V_d , and..." should be edited to refer to V_o . Similarly, the phrases using "driving voltages V_j , V_j , and V_j at ..." should be edited to be "voltages V_j , V_j , and V_j " to agree with the information shown in Fig. 6.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Chow (USPN: 7129920).

Regarding claims 1 and 5, Chow discloses a method of operation for a liquid crystal display to correct brightness compensation due to differences in the thickness of the display device. The method includes providing calibration gamma curves and applying different voltages at positions of the LCD based to have identical brightness within the display (col. 3, lines 30-55; col. 6, line 17 – col. 7, line 10).

Regarding claim 2, Chow discloses detecting gamma curves at positions of the LCD and then determining the driving voltage at each position at the gray scale and then providing driving voltages to each pixel to provide equal brightness at locations of the display (col. 6, line 17 – col. 7, line 10).

Regarding claim 3, Chow discloses using interpolation to determine gamma curves at locations in the display and for determining the corrected driving voltage at the locations in the display (col. 6, line 61 – col. 7, line 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chow.

Regarding claim 4, as discussed above, Chow discloses all of the limitations except "obtaining a gamma curve of a position at a center of gravity of three positions that have known gamma curves by utilizing a formula of a center of gravity." Chow discloses using a weighted interpolation method to determine a gamma curve between known gamma curves. The Examiner notes that finding the center of gravity is an interpolation method of calculation. At the time of invention it would have been obvious to one skilled in the art that any type of interpolation method, including the well-known technique of 'center of gravity' calculation, could be used as the interpolation method of Chow. The center of gravity calculation could be done using 2, 3, or more inputs of information based on design choice and the result would be the result of a weighted interpolation technique. Therefore, it would have been obvious to one skilled in the art that a 'center of gravity' calculation method or similar interpolation technique could be used as the interpolation method of Chow to determine driving voltages for the pixels of the liquid crystal display.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Serita (USPN: 6603452) discloses a gamma correction system for a LCD providing different driving voltages based on measured differences of the brightness of the display based on display thickness.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven E. Holton
Division 2629
February 1, 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
Amr Awad